

1. Record Nr.	UNINA9910298650903321
Autore	Rambidi Nicholas G
Titolo	Molecular Computing : Origins and Promises // by Nicholas G. Rambidi
Pubbl/distr/stampa	Vienna : , : Springer Vienna : , : Imprint : Springer, , 2014
ISBN	3-211-99699-0
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (228 p.)
Disciplina	004.1 54 541.2 610.28
Soggetti	Nanochemistry Biomaterials Microprocessors Biomedical engineering Processor Architectures Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Nanotechnology: Origin and Development -- Computer technology and Nanotechnology.-Molecular Element Base of Computational Devices -- Molecular Element BaNanotechnology: Origin and Development -- Computer technology and Nanotechnology -- Molecular Element Base of Computational Devices.-Molecular Element Base of Computational Devices -- Chemical Diffusion-Reaction Media and Artificial Intelligence -- Diffusion-Reaction Processor: Possibilities and Limitations -- Self-Organization as A General Principle of information Processing in Distributed Dynamic Systems -- New Ideas....New Opportunities?- What Next?se of Computational Devices -- Chemical Diffusion-Reaction Media and Artificial Intelligence -- Diffusion-Reaction Processor: Possibilities and Limitations -- Self-Organization as A General Principle of information Processing in Distributed Dynamic Systems -- New Ideas....New Opportunities?- What Next?.
Sommario/riassunto	The question whether molecular primitives can prove to be real

alternatives to contemporary semiconductor means or effective supplements extending greatly possibilities of information technologies is addressed. Molecular primitives and circuitry for information processing devices are also discussed. Investigations in molecular based computing devices were initiated in the early 1970s in the hopes for an increase in the integration level and processing speed. Real progress proved unfeasible into the 1980's. However, recently, important and promising results were achieved. The elaboration of operational 160-kilobit molecular electronic memory patterned 1011 bits per square centimeter in the end of 90's were the first timid steps of information processing further development. Subsequent advances beyond these developments are presented and discussed. This work provides useful knowledge to anyone working in molecular based information processing.
